applying a composition to a polishing pad, the composition comprising:

at least one reducing agent;

ions from at least one transitional metal; and

water; and

polishing the substrate in presence of the composition to remove the tantalum-comprising layer.

28. The method of claim 27, wherein the composition further comprises at least one pH adjusting agent.

29. The method of claim 27, wherein the concentration of the at least one reducing agent is at least 0.005 weight percent.

30. The method of claim 27, wherein the reducing agent is selected from the group consisting of hydroxylamine, glucose, sulfothionate, potassium iodide, sodium thiosulfate, oxalic acid, or combinations thereof.

31. The method of claim 27, wherein the composition has an initial pH in the range in which the at least one reducing agent is active.

32. The method of claim 27, wherein the composition has an initial pH between about 2 and about 12.

33. The method of claim 32, wherein the reducing agent comprises hydroxylamine and the initial pH is between about 3 and about 11.

34. The method of claim 32, wherein the reducing agent comprises glucose and the initial pH is between about 8 and about 12.

35. The method of claim 32, wherein the reducing agent comprises sulfothionate and the initial pH is between about 3 and about 11.

36. The method of claim 32, wherein the reducing agent comprises potassium iodide and the initial pH is between about 3 and about 11.

37. The method of claim 32, wherein the reducing agent comprises sodium thiosulfate and the initial pH is between about 3 and about 11.

38. The method of claim 32, wherein the reducing agent comprises oxalic acid and the initial pH is between about 4.5 and about 5.5.

39. The method of claim 27, wherein the composition further comprises at least one corrosion inhibitor.

40. The method of claim 39, wherein the concentration of the corrosion inhibitor is up to about 2 weight percent.

41. The method of claim 39, wherein the corrosion inhibitor comprises an organic compound comprising at least one azole group.

42. The method of claim 41, wherein the corrosion inhibitor is selected from the group consisting of benzotriazole, mercaptobenzotriazole, 5-methyl-1-benzotriazole, or combinations thereof.

43. The method of claim 27, further comprising at least one buffer.

44. The method of claim 43, wherein concentration of the buffer is from about 0.1 to about 8 weight percent.

45. The method of claim 43, wherein the buffer is selected from the group consisting of metal bicarbonate, tetraborate terahydrate salts, or combinations thereof.

46. The method of claim 27, wherein the composition further comprises abrasive particles.

47. The method of claim 27, further comprising abrasive particles in a concentration of from about 0 weight percent to about 10 weight percent.

48. The method of claim 27, wherein the ions from the at least one transitional metal are generated in situ during polishing.

49. The method of claim 27, wherein the ions from the at least one transitional metal are provided in an aqueous solution.

50. The method of claim 27, wherein the ions from the at least one transitional metal are provided by contacting solid metal to a polishing pad.

51. The method of claim 27, wherein the ions from the at least one transitional metal are selected from the group consisting of copper ions, iron ions, or combinations thereof.

52. The method of claim 27, wherein the ions from the at least one transitional metal are provided in a high valence state.

53. The method of claim 27, wherein during polishing of the substrate the tantalum-comprising layer is removed from the substrate at a ratio of tantalum-comprising layer to conductive material layer to dielectric layer between about 1:0:0 to about 1:0.2:0.2.

54. The method of claim 27, wherein during polishing of the substrate the tantalum-comprising layer is removed from the substrate at a rate of at least about 250 Å/min.

55. A method for planarizing a substrate having a conductive material layer and a barrier layer deposited thereon, comprising:

applying a conductive-material-layer-selective composition to a polishing pad;

polishing the substrate in presence of the conductive-material-layer-selective composition;

applying a barrier-layer-selective composition to a polishing pad, the barrier-layer-selective composition comprising:

at least one reducing agent;

ions from at least one transitional metal; and

water, and

polishing the substrate in presence of the barrier-layer-selective composition.

56. The method of claim 55, wherein the conductive-material-layer-selective composition comprises:

at least one chelating agent;

at least one oxidizer;

at least one corrosion inhibitor; and

water.

57. The method of claim 56, wherein the conductive-material-layer-selective composition further comprises at least one pH adjusting agent.

58. The method of claim 56, wherein the conductive-material-layer-selective composition further comprises abrasive particles.

59. The method of claim 55, wherein during polishing the substrate in presence of the conductive-material-layer-selective composition, the conductive material layer is removed from the substrate at a ratio of conductive material layer to barrier layer between about 1:0.0 to about 1:0.1.

60. The method of claim 55, wherein the barrier-layer-selective composition further comprises at least one pH adjusting agent.

61. The method of claim 55, wherein the barrier-layer-selective composition further comprises at least one corrosion inhibitor.

62. The method of claim 55, wherein the barrier-layer selective composition further comprises at least one buffer.

63. The method of claim 55, wherein the barrier-layer-selective composition further comprises abrasive particles.

64. The method of claim 55, wherein the barrier-layer-selective composition further comprising abrasive particles in a concentration of from about 0 weight percent to about 10 weight percent.

65. The method of claim 55, wherein during polishing the substrate in presence of the barrier-layer-selective composition the barrier layer is removed from the substrate at a ratio of barrier layer to conductive material layer to dielectric layer between about 1:0:0 to about 1:0.2:0.2.

66. The method of claim 55, wherein during polishing the substrate in presence of the barrier-layer-selective composition the barrier layer is removed from the substrate at a rate of at least about 250 Å/min.

67. A method for processing a substrate, comprising:

providing a substrate comprising a dielectric layer with feature definitions formed therein, a barrier layer conformally deposited on the dielectric layer and in the feature definitions formed therein, and a conductive material layer deposited on the barrier layer and filling the feature definitions formed therein;

polishing the substrate with a composition comprising a chelating agent, an oxidizer, a corrosion inhibitor, and water to remove the conductive material layer; and

polishing the substrate with a composition comprising at least one reducing agent, and water to remove the barrier layer.

68. The method of claim 27, wherein the concentration of the at least one reducing agent is less than about 1.0 weight percent.

69. The method of claim 27, wherein the concentration of the at least one reducing agent is between about 0.01 weight percent and about 0.5 weight percent.

70. The method of claim 30, wherein the reducing agent is selected from the group consisting of hydroxylamine, oxalic acid, or combinations thereof.

71. The method of claim 70, wherein the composition has an initial pH between about 3 and about 11.

72. The method of claim 71, wherein the composition has an initial pH between about 4.5 and about 5.5.

73. The method of claim 42, wherein the corrosion inhibitor comprises benzotriazole.

74. The method of claim 47, further comprising abrasive particles in a concentration of less than about 1.0 weight percent.

75. The method of claim 27, further comprising abrasive particles in a concentration of from about 0 weight percent to about 10 weight percent, wherein the concentration of the at least one reducing agent is between about 0.01 weight percent and about 0.5 weight percent and wherein the ions from the at least one transitional metal are selected from the group consisting of copper ions, iron ions, or combinations thereof.

76. The method of claim 75, wherein the reducing agent is selected from the group consisting of hydroxylamine, oxalic acid, or combinations thereof.